



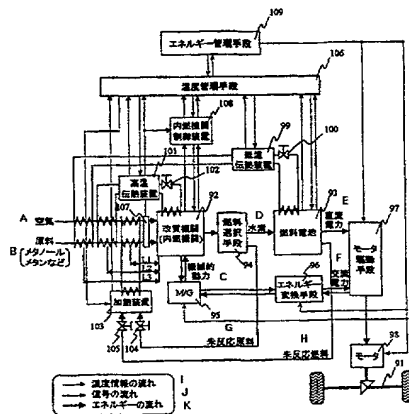
PCT

特許協力条約に基づいて公開された国際出願

<p>(51) 国際特許分類 F02M 27/02, B60L 11/18, C01B 3/32, H01M 8/00, 8/04, 8/06</p>	<p>A1</p>	<p>(11) 国際公開番号 WO00/19084</p> <p>(43) 国際公開日 2000年4月6日(06.04.00)</p>
<p>(21) 国際出願番号 PCT/JP99/05279</p> <p>(22) 国際出願日 1999年9月28日(28.09.99)</p> <p>(30) 優先権データ 特願平10/276950 1998年9月30日(30.09.98) JP</p> <p>(71) 出願人 (米国を除くすべての指定国について) 株式会社 日立製作所(HITACHI, LTD.)(JP/JP) 〒101-8010 東京都千代田区神田駿河台四丁目6番地 Tokyo, (JP)</p> <p>(72) 発明者; および (75) 発明者/出願人 (米国についてのみ) 宮崎泰三(MIYAZAKI, Taizo)(JP/JP) 羽二生倫之(HANIU, Tomoyuki)(JP/JP) 正木良三(MASAKI, Ryoso)(JP/JP) 〒319-1292 茨城県日立市大みか町七丁目1番1号 株式会社 日立製作所 日立研究所内 Ibaraki, (JP)</p> <p>(74) 代理人 高田幸彦, 外(TAKADA, Yukihiko et al.) 〒317-0073 茨城県日立市幸町二丁目1番48号 Ibaraki, (JP)</p>		<p>(81) 指定国 DE, JP, KR, US</p> <p>添付公開書類 国際調査報告書</p>

(54)Title: FUEL CELL SYSTEM AND VEHICLE USING THE SYSTEM

(54)発明の名称 燃料電池システムおよびそれを用いた車両



- 92 ... MODIFIED ENGINE (INTERNAL COMBUSTION ENGINE)
- 93 ... FUEL CELL
- 94 ... FUEL SELECTION MEANS
- 96 ... ENERGY CONVERSION MEANS
- 97 ... MOTOR DRIVE MEANS
- 98 ... MOTOR
- 99 ... LOW TEMPERATURE HEAT TRANSMISSION DEVICE
- 101 ... HIGH TEMPERATURE HEAT TRANSMISSION DEVICE
- 103 ... HEATING DEVICE
- 105 ... TEMPERATURE CONTROL MEANS
- 108 ... INTERNAL COMBUSTION ENGINE CONTROL DEVICE
- 109 ... ENERGY CONTROL MEANS
- A ... AIR
- B ... MATERIAL (METHANOL, METHANE, ETC.)
- C ... MECHANICAL POWER
- D ... HYDROGEN
- E ... DC POWER
- F ... AC POWER
- G ... UNREACTED MATERIAL
- H ... UNREACTED FUEL
- I ... FLOW OF TEMPERATURE INFORMATION
- J ... FLOW OF SIGNAL
- K ... FLOW OF ENERGY

(57) Abstract

A fuel cell (93) which generates energy by using reaction product from a modified engine (92) which acts as an internal combustion engine for a modifier and power generation and has a piston performing a compression work and a plurality of reaction chambers, wherein the internal temperature of the reaction chambers provided in the modified engine (92) is raised to above the self igniting temperature of material in the atmosphere in the material reaction chambers by using heat from a plurality of heat sources and a plurality of unreacted fuel for heating the material supplied to the modified engine (92), a partial oxidation reaction enabling both mechanical power and hydrogen to be produced is made, and the mechanical power produced controls the heat balance of the system so as to increase a modifying efficiency by being used for a steam modifying reaction as a heat absorbing reaction generating much hydrogen in the other reaction chamber.